UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/004,538	10/23/2001	Reishi Naka	980039.409	4403

500 7590 05/23/2003

SEED INTELLECTUAL PROPERTY LAW GROUP PLLC
701 FIFTH AVE
SUITE 6300
SEATTLE, WA 98104-7092

EXAMINER
VERBITSKY, GAIL KAPLAN

ART UNIT	PAPER NUMBER
2859	

DATE MAILED: 05/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)
10/004,538	Naka et al.
Examiner	**Art Unit**
Gail Verbitsky	2859

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *Mar 6, 2003*

2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-11* is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideratio

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-11* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examine

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☒ All b) ☐ Some* c) ☐ None of:

1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119 (a)-(d).

Claim Objections

2. Claim 6 is finally objected to because of the following informalities: Perhaps applicant should replace "suitability" in line 1 with --conductivity--, because no step of determining the suitability has been described. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claim 8 is finally rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In this case, the claim language is confusing because the preamble of the claim is directed to a method of manufacturing, while the body of the claim is directed calculating of the thermal conductivity of an object. Furthermore, please note that in the rejection on the merits, the Examiner considered that this claim is directed to calculating of a thermal conductivity, since no steps of manufacturing of a heat insulating material has been described in the claim.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 1-4, 6-9,11 are finally rejected under 35 U.S.C. 103(a) as being unpatentable over THIN FILM THERMAL CONDUCTIVITY METER by Amer et al. [hereinafter Amer] in view of Hiraoka.

Amer discloses in Fig. 2 a device and method of determining/ calculating a thermal conductivity of a heated specimen (object) Ks by determining a temperature difference delta T in a vertical direction of a material of known conductivity vertically aligned with the object. Both, the object and the material are being controllably heated.

Amer does not teach that the material is a heat resistive material. Amer does not teach to position the heater in between the object and the material, with the remaining limitations of claims 1-4, 6-9,11.

Hiraoka discloses in Figs. 3c-1, II and 18-19 a method/ device comprising aligning a thermally resistant substrate (heat resistant material) 1, an object (substance or adhered layer/ insulating material) 100, 6a whose thermal conductivity is to be measured (calculated), a heater 21 in a substantially vertical axis. The heater 21 is generating heat between the object and the

substrate, a central heating area A and a surrounding area. Hiraoka also states that the object can be an insulating layer. Fig. 19 show a relationship between the thermal conductivity of an object and temperature difference. Inherently, this (calibration) curve is predetermined, and can be used to find the thermal conductivity when the temperature difference is known by using a calibration coefficient. Hiraoka also shows in Fig. 18 that an externally exposed area of the material can be covered with a cover member 5.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to position the heater in the device disclosed by Amer, between the object and the material of a known conductivity, as taught by Hiraoka, so as to eliminate heat losses and better control the heat distribution, in order to improve an accuracy of the device and method.

It would have also been obvious to one of ordinary skill in the art at the time the invention was made to modify the device disclosed by Amer, so as to make the material of a known conductivity a heat resistant material, as taught by Hiraoka, so as to allow the operator to determine the conductivity of the object by using any material of a known conductivity as a reference.

It would have further been obvious to one of ordinary skill in the art at the time the invention was made to modify the device disclosed by Amer, so as to make the object of a heat insulating material, as taught by Hiraoka, so as to allow the operator to use the method for determining the conductivity of any object whether it is a good thermal conductor or an insulator.

It would have further been obvious to one of ordinary skill in the art at the time the invention was made to modify the device disclosed by Amer, so as to prepare a predetermined calibration curve showing relationship between the thermal conductivity and the temperature difference, so as to allow the operator to easily obtain the correct thermal conductivity of the object without making complicated calculations, as taught by Hiraoka, in order to decide if the object is appropriate to use.

With respect to claims 1-3, 8-9, 11: the method steps will be met during the normal operation of the device stated above.

7. Claim 5 is finally rejected under 35 U.S.C. 103(a) as being unpatentable over Amer and Hiraoka as applied to claims 1-4, 6-9,11 above and further in view of JP 62172248A [hereinafter JP].

Amer and Hiraoka disclose the device and method as stated above in paragraph 6.

They do not disclose a main heat generating section (means) and an auxiliary heat generating section (means) as claimed by applicant.

JP discloses a device in the field of applicant's endeavor comprising a main heater (heat generating section) 2 and a sub-heater (auxiliary heat generating section) 5 provided around the main heater.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to add an auxiliary heater, as taught by JP, to the device disclosed by Amer

and Hiraoka, so as to heat the surface of interest as uniform as possible, in order to achieve more accurate results of heat conductivity measurements.

8. Claim 10 is finally rejected under 35 U.S.C. 103(a) as being unpatentable over Amer and Hiraoka as applied to claims 1-4, 6-9,11 above, and further in view of Cur et al. (U.S. 5345814) [hereinafter Cur].

Amer and Hiraoka disclose the device and method of testing an insulation object as stated above in paragraph 6.

They do not teach the particular insulation object, i.e., vacuum insulation.

Cur teaches that there is a need to test a vacuum insulation for its insulation quality, thus, thermal conductivity.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the insulation layer (object) disclosed by Amer and Hiraoka, with the insulation layer (vacuum insulation), as taught by Cur, because both of them are alternate types of insulation layers that need to be tested for quality/ thermal conductivity.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out

the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Response to Arguments

10. Applicant's arguments with respect to claims 1-11 have been considered but are moot in view of the new ground(s) of rejection necessitated by the present amendment.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art cited in the PTO-892 and not mentioned above disclose related methods/ devices.

13. Any inquiry concerning this communication should be directed to Examiner Verbitsky who can be reached at (703) 306-5473 Monday through Friday 7:30 to 4:00 ET.

Any inquiry of general nature should be directed to the Group receptionist whose telephone number is (703) 308-0956.

GKV

May 14, 2003

Diego Gutierrez

Supervisory Patent examiner, TC 2800